31. A T-cell epitope, wherein said T-cell epitope is a functionally active variant of a T-cell epitope according to claim 28 with a sequence homology of at least 85% at the amino acid level.

32. A T-cell epitope according to claim 29, wherein said variant is structurally homologous to an amino acid sequence selected from the group consisting of AQIFNKPYW and AGVDNRECI.

33. A T-cell epitope according to claim 28, wherein the T-cell epitope is a cytotoxic T-cell epitope.

34. A compound comprising a T-cell epitope according to claim 28, wherein the compound is not a naturally occurring L1 protein of a papillomavirus and not an exclusively N-terminal or an exclusively C-terminal deletion mutant of a naturally occurring L1 protein of a papillomavirus.

35. A compound according to claim 34, wherein the compound is a polypeptide.

36. A compound according to claim 34, wherein the compound is a fusion protein.

37. A compound according to claim 34, wherein the compound is a polypeptide of at least 10 amino acids in length.

38. A compound according to claim 34, wherein the compound contains a label selected from the group consisting of a chemical label, radioactive isotope label, non-radioactive isotope label and fluorescent label.

39. A nucleic acid coding for a T-cell epitope according to claim 28.

40. A vector containing a nucleic acid according to claim 39.

41. A cell containing or presenting at least one T-cell epitope according to claim 28.

42. A cell according to claim 41, wherein the cell is transfected, transformed, or infected with a nucleic acid according to claim 39.

43. A cell according to claim 41, wherein said cell was incubated with at least one compound according to claim 34.

44. A cell according to claim 41, wherein said cell is selected from the group consisting of a B cell, a macrophage, a dendritic cell, an embryonic cell, a fibroblast, a B16F10, a B6, a C3, an EL4, a RMA and a RMA-S cell.

45. A complex comprising a T-cell epitope according to claim 28 and at least one further compound.

46. A complex according to claim 45, wherein said complex contains a molecule selected from the group consisting of at least one MHC class I molecule and a H2-D^b tetramer.

47. A complex according to claim 46, wherein said MHC class I molecule is selected from the group consisting of a human MHC class I molecule, murine MHC class I molecule and a MHC class I molecule derived from C57B1/6 mice.

48. A method for in vitro detection of the activation of T cells by at least one compound containing a T-cell epitope according to claim 28, which comprises the following steps:

a) stimulating cells using at least one said compound;

b) adding at least one target cell presenting a T-cell epitope according to claim 28, and

c) determining a T-cell activation.

49. A method according to claim 48, wherein said method comprises, after step a), the following additional step a'):

a') coculturing of the cells for at least 5 days, with a substance selected from the group consisting of:

(i) at least one target cell loaded with a compound selected from the group consisting of a compound according to claim 34, at least one complex according to claim 45, at least one capsomer, at least one stable capsomer, at least one VLP, at least one CVLP, and at least one virus,

(ii) at least one complex according to claim 45, and

(iii) at least one target cell presenting a T-cell epitope according to claim 28,

prior to step b).

A1 Cont.

50. A method for producing a target cell according to claim 41, the method comprising incubating said target cell with a substance selected from the group consisting of at least one compound according to claim 34 and at least one complex according to claim 45.

51. A method for producing a target cell according to claim 41, the method comprising transfecting, transforming, or infecting the target cell with a nucleic acid according to claim 39.

52. A method for producing a target cell according to claim 41, wherein said target cell is selected from the group consisting of a B cell, a macrophage, a dendritic cell, an embryonic cell, a fibroblast, a B16F10, a B6, a C3, an EL4, a RMA and a RMA-S cell.

53. A method according to claim 48, wherein instead of step a) the following step a") is carried out:

a") producing and preparing samples containing T cells and subsequent culturing.

54. An assay system for in vitro detection of the activation of T cells, comprising:

a) a substance selected from the group consisting of at least one T-cell epitope according to claim 28, at least one compound according to claim 34, at least one vector according to claim 40, at least one cell according to claim 41, and at least one complex according to claim 45, and

b) effector cells selected from the group consisting of effector cells of the immune system, T cells, cytotoxic T cells and T helper cells.

55. A method for causing or detecting an immune response, the method comprising using a substance selected from the group consisting of at least one T-cell epitope according to claim 28, at least one compound according to claim 34, at least one vector according to claim 40, at least one cell according to claim 41 and at least one complex according to claim 45.

56. A medicament comprising a substance selected from the group consisting of at least one compound according to claim 34, at least one vector according to claim 40, at least one cell according to claim 41, and at least one complex according to claim 45.

57. A diagnostic agent comprising a substance selected from the group consisting of at least one compound according to claim 34, at least one vector according to claim 40, at least one cell according to claim 41, and at least one complex according to claim 45.

58. A medicament according to claim 56, wherein said substance is present in solution, bound to a solid matrix or mixed with an adjuvant.

59. A diagnostic agent according to claim 57, wherein said substance is present in solution, bound to a solid matrix or mixed with an adjuvant.

If there are any other charges, or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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